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# Comparative Land Use Law: Patterns of Sustainability\*

JOHN R. NOLON\*\*

## I. Introduction to Comparative Land Use Law

LAND USE SCHOLARS AND PRACTITIONERS IN THE UNITED STATES trace the development of domestic land use law to 1916, when the City of New York adopted the nation's first comprehensive zoning law,<sup>1</sup> and then on to 1926 when the U.S. Supreme Court declared zoning constitutional in *Euclid v. Ambler Realty*.<sup>2</sup> Some have studied European influences stemming from late nineteenth century regulations and the urban design principles imported from the great cities of the era.<sup>3</sup> Others know about the catastrophic London fire of 1666 and how it transformed society's understanding of why individual property rights, to some degree, must be

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1. Others point to the 1911 adoption by the Chicago city advisory planning commission of the General Plan of Chicago, an advisory document focused principally on the location of roads, shipping facilities, parks, and civic buildings, but incorporating a number of basic and important municipal planning principles. See JULIAN CONRAD JUERGENSMEYER & THOMAS E. ROBERTS, LAND USE PLANNING AND DEVELOPMENT REGULATION LAW 21-22 (2003).

2. *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365 (1926).

3. See Robert Fishman, *The American Planning Tradition: An Introduction and Interpretation*, in *THE AMERICAN PLANNING TRADITION: CULTURE AND POLICY* 11 (Robert Fishman ed., 2000).

subject to the greater public interest when common challenges are faced.<sup>4</sup>

For most of us, however, the trail beyond these few foreign precedents grows faint. Our investigations focus on what has happened within our own federal system. Land use studies, particularly in law schools, pick up the story in the early decades of the twentieth century and trace the evolution of Euclidian zoning<sup>5</sup> through the postwar building boom and then to the invention of neo-Euclidian land use controls needed to address the critical issues of the day: parochialism, pollution, exclusion, sprawl, and the fragmentation of a complex system of federal, state, and local laws. These issues, like the London fire, have ignited fierce battles over the extent to which private rights and the private sector should be regulated, the competence of government to direct market forces, the proper role of municipal, state, and federal agencies in land use regulation, and the appropriate legal techniques that government should employ to protect the public interest.

Not surprisingly, these same debates are taking place in other countries that face serious land use challenges in a world that is increasingly interconnected economically, environmentally, and legally. As the ties that bind the continents have tightened, researchers have dedicated more attention to describing and evaluating the land use systems of other countries.<sup>6</sup> In comparative

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4. See RUTHERFORD H. PLATT, *LAND USE AND SOCIETY: GEOGRAPHY, LAW, AND PUBLIC POLICY* 81-92 (rev. ed. 2004). The fire led to a moratorium on development, the creation of an investigative commission, and, finally, a rebuilding plan and building code for the center of London. The Act for the Rebuilding of London, adopted by Parliament in 1667, required brick exteriors, wider streets, and open space along the Thames River for access to water for firefighting. Land use was regulated to a minor degree, as well, with activities such as breweries and tanneries prohibited in the central city. The law provided for compensation to be paid to any individual lot owner who was prohibited from building.

5. See, e.g., Michael Kwartler, *Legislating Aesthetics: The Role of Zoning in Designing Cities*, in, *ZONING AND THE AMERICAN DREAM: PROMISES STILL TO KEEP* 195-203 (Charles M. Haar & Jerold Kayden eds., 1990).

6. See, e.g., *CITIES, LAW, AND SOCIAL POLICY: LEARNING FROM THE BRITISH* (Charles Haar ed., 1984) [hereinafter *LEARNING FROM THE BRITISH*]; *INTERNATIONAL HANDBOOK ON LAND USE PLANNING* (Nicholas N. Patricios ed., 1986); Clifford Larsen, *What Should Be the Leading Principles of Land Use Planning? German Perspective*, 29 *VAND. J. TRANSNAT'L L.* 967 (1996); PETER NEWMAN & ANDY THORNLEY, *URBAN PLANNING IN EUROPE: INTERNATIONAL COMPETITION, NATIONAL SYSTEMS AND PLANNING PROJECTS* (1996); John F. Richards, *Toward a Global System of Property Rights in Land*, in *LAND, PROPERTY, AND THE ENVIRONMENT* 13 (John F. Richards ed., 2002); JAMES A. KUSHNER, *COMPARATIVE URBAN PLANNING LAW* (2003); PATRICK MCAUSLAN, *BRINGING THE LAW BACK IN: ESSAYS IN LAND, LAW AND DEVELOPMENT* (2003); Robert R.M. Verchick, *Why the Global Environment Needs Local Government: Lessons from*

law, scholars examine the similarities and differences between legal systems in different countries; they collect data, describe individual systems, compare various aspects of them, and sometimes borrow principles and approaches to suggest legal reforms. In the results of their work and the laws they describe, we observe the patterns of change in the legal regimes of an evolving world.

This field of study takes on new urgency today.<sup>7</sup> The Johannesburg Declaration on Sustainable Development, signed in 2002, was a response to startling evidence that long-term trends in land use demand world attention. The United Nations' Millennium Ecosystem Assessment Synthesis (March, 2005),<sup>8</sup> for example, reports that

- the function of the world's ecosystems changed more rapidly in the second half of the twentieth century than in previous recorded history;
- more land was converted from its natural state to cultivation in the thirty years after 1950 than between 1700 and 1850;
- water withdrawals from rivers and lakes doubled since 1960;
- the number of species is declining (up to thirty percent of mammal, bird, and amphibian species are currently threatened, particularly in freshwater ecosystems);
- some 1.1 billion people lack access to improved water supply;
- more than 2.6 billion lack access to improved sanitation;
- since 1960, the ratio of water use to accessible supply has grown by twenty percent per decade;
- approximately 1.7 million people die annually as a result of inadequate water, sanitation and hygiene; and

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*the Johannesburg Summit*, 35 URB. LAW. 471 (2003); Zorica Nedović-Budiae, *The Globalization of Planning*, 2004 J. AM. PLAN. ASS'N 362 (Summer 2004).

7. See GreenBiz.com, *Report: World Land Use is Top Environmental Issue*, (Aug. 9, 1999), at [http://www.greenbiz.com/news/news\\_third.cfm?newsID=28536](http://www.greenbiz.com/news/news_third.cfm?newsID=28536) ("Short of a collision with an asteroid, land use by humans is the most significant impact on the world's biosphere. It may be the single most pressing environmental issue of our day."); Jonathan A. Foley, *Global Consequences of Land Use*, 309 SCIENCE 570 (JULY 22, 2005) (concluding that "[m]odern land-use practices, while increasing the short-term supplies of material goods, may undermine many ecosystem services in the long run, even on regional and global scales."); see also Richards, *supra* note 6, at 1 ("Nearly all our present and future environmental concerns ultimately return to questions of land use.").

8. MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: SYNTHESIS (2005) [hereinafter MEA], available at <http://www.millenniumassessment.org/en/Products.Synthesis.aspx>.

- much of this adverse impact is the direct result of demands made by increasing global populations and the land development—urbanization<sup>9</sup>—needed to serve them.<sup>10</sup>

In an effort to direct world leaders' attentions to possible solutions to these alarming problems, the Millennium Assessment points out that a number of institutional changes may have to be made. These include changes in institutional and environmental governance frameworks, addressing ecosystem management issues within broader development planning frameworks,<sup>11</sup> increased coordination between environmental agreements and economic and social institutions,<sup>12</sup> and increased transparency of government and private-sector performance regarding policies that impact ecosystems, including greater involvement of concerned stakeholders in decision-making.<sup>13</sup>

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9. See generally Press Release, United Nations, POP/918 (Feb. 24, 2005), available at <http://www.un.org/News/Press/docs/2005/pop918.doc.htm>. According to the United Nations 2004 Report on global population trends, world population is expected to increase by 2.6 billion over the next 45 years, from 6.5 billion today to 9.1 billion in 2050. *Id.*

10. See MEA, *supra* note 8.

11. MEA, *supra* note 8, at 20. "For example, the Poverty Reduction Strategies prepared by developing-country governments for the World Bank and other institutions strongly shape national development priorities, but in general these have not taken into account the importance of ecosystems to improving the basic human capabilities of the poorest." *Id.*

12. *Id.* According to the MEA:

International agreements are indispensable for addressing ecosystem-related concerns that span national boundaries, but numerous obstacles weaken their current effectiveness. Steps are now being taken to increase the coordination among these mechanisms, and this could help to broaden the focus of the array of instruments. However, coordination is also needed between the multilateral environmental agreements and more politically powerful international institutions, such as economic and trade agreements, to ensure that they are not acting at cross-purposes. And implementation of these agreements needs to be coordinated among relevant institutions and sectors at the national level.

*Id.*

13. *Id.* The MEA also explained that:

Laws, policies, institutions, and markets that have been shaped through public participation in decision-making are more likely to be effective and perceived as just. Stakeholder participation also contributes to the decisionmaking process because it allows a better understanding of impacts and vulnerability, the distribution of costs and benefits associated with trade-offs, and the identification of a broader range of response options that are available in a specific context. And stakeholder involvement and transparency of decisionmaking can increase accountability and reduce corruption.

*Id.*

One remarkable positive trend that accords with these Millennium recommendations is the increased participation of municipal governments and their citizens in decision-making regarding sustainable land use patterns. Because local governments operate at ground level, they are both aware of—and often motivated to rectify—land use crises; their citizens are there to urge them into action. Their lack of capacity to deal effectively with such serious matters calls on provincial and national governments to help by providing technical assistance, data, financial resources, infrastructure, and development and conservation guidelines. Recent land use laws adopted in several countries either empower local governments to act or show an awareness of their critical role in achieving sustainable development. The level of involvement of localities in sustainable development problem solving has increased dramatically in recent years.<sup>14</sup> Because the U.S. system of land use control relies so heavily on municipal regulation, those who know it well have much to contribute to, and to learn from, this global trend.

In an early study of British law, Professor Charles M. Haar wrote:

This book takes a comparative look at another nation's attempts to confront questions about the future of its cities: To what extent should direct control over the use of land reside with local or state government? How great a discretion should be left to government decision makers? Are the gains and losses of value brought about by land use planning fair? At what point should public participation be invited into the land development process? How can the public and private sectors, alone or in tandem, improve the housing supply in general as well as the condition of individual dwelling units? What can be done to revitalize the large abandoned areas in older central cities?<sup>15</sup>

These issues, framed two decades ago, are remarkably similar to those posed last year by the Millennium Assessment. The pas-

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14. See Verchick, *supra* note 6, at 472-73:

[T]he initiatives of local government that followed the Rio Summit make up "perhaps the single most important" effort toward sustainable development. This assessment finds support in a 2001 survey showing that since Rio, 6,416 local authorities in 113 countries have become involved in so-called "Local Agenda 21" activities . . . . The number of local authorities involved in such activities has more than tripled in the last five years.

*Id.*

15. See LEARNING FROM THE BRITISH, *supra* note 6, at xi.

sage of time and the onset of globalization and worldwide environmental concerns have broadened the geographical scope of comparative legal studies in the land use field and commend the recent efforts of scholars participating in this complex investigation.

Recently adopted land use laws in other countries illustrate the evolution of national legal systems as they respond to the challenge of sustainable development.<sup>16</sup> These laws range in aspiration, ambition, and complexity because of cultural, historical, political, and geographical differences. Some of them initiate discussions to bring society to a consensus that a formal strategy for proper land use is required. Others are aspirational in nature; they establish goals and objectives that reflect some consensus as to what should be accomplished. Still others are framework laws. They put in place agencies and strategies intended to address problems—assigning roles to various levels of government and their agencies—and explain how the roles of the public and private sectors are coordinated. Other laws achieve success on the ground by providing economic incentives or establishing market-based mechanisms that change behaviors and improve land use practices. A final group of laws establish land use standards and insist on compliance, employing penalties and other disincentives to achieve their goals.

Describing land use laws in these terms illuminates the great flexibility and power of the law as a vehicle for change. Land use laws are mechanisms that address each society's emerging problems; they provide strategies that are appropriate to the culture and place of their origin. Some countries are not ready for command-and-control, standard-based legal regimes complemented with enforcement mechanisms. Each country that is ready to take action can, through comparative legal study, find appropriate legal strategies and then fit them to its circumstances. The law provides ready solutions, allowing lawmakers to, for example, require inventories of the land and its resources, create processes that promote dialogue and consensus, articulate that consensus in policy statements, identify and properly employ the unique competencies of each level of government and sector of society, create standards, and use incentives, markets and law en-

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16. See COMPENDIUM OF LAND USE LAW AND SUSTAINABLE DEVELOPMENT (John R. Nolon ed., 2006) (forthcoming).

forcement to meet those standards or to create some novel combination of these.

This article is based on a review and comparison of nearly 100 laws, including at least several from each of the continents—a small sampling of the full complement of laws of the world's nearly 200 nations that bear on land use and sustainable development. It begins with a short narrative touching on historical examples of governmental control of land development and then turns to an exploration of the Rio Declaration of 1992, whose principles are reflected in so many of the laws that are discussed in the subsequent Parts of this article. Those Parts explore laws that promote urban planning, decent housing, slum eradication, restructuring of government, and property rights.

This review of a limited number of national laws reveals some interesting trends, which are tentatively described for further study, review, and comment. These include an increased emphasis on municipal involvement in land planning and implementation, greater transparency and citizen participation, a marked increase in the number of constitutional provisions that support sustainable development, attempts to restructure governmental relations to coordinate the activities of various levels of government, impressive emphasis on managing human settlements (including the provision of decent housing), greater protection and clearer definitions of private property rights, and efforts to integrate land planning with a number of social issues including the reduction of poverty.

In the United States, we have much to learn. This article was submitted just after Hurricane Katrina struck the Gulf Coast. The devastation that followed revealed this nation's vulnerability to disasters and the critical importance of formulating a clear policy regarding the role of the federal, state, and local governments regarding all aspects of land management. The penultimate part of this article describes two approaches to sustainable development in the United States. By discussing laws at the federal, state, and local level that work well together to promote sustainable coastal policies, it illustrates how integrated federalism can be effected. By describing the highly fragmented legal system that governs the Mississippi River watershed, whose terminus is New Orleans (where Katrina's wrath was so poignantly visited), this article demonstrates how governments can fail to create workable arrangements. We must pay close attention as these international trends evolve, particularly the critical efforts of many nations to



structure coherent governmental programs for sustainable development.

## II. Historical Forerunners

Land use planning and regulation are not new on the world stage. In the early Roman period, around 450 B.C., a commission was formed to draft legislation regulating private behavior and public affairs. The result was the Twelve Tables, which included the following site planning provisions: "Whoever sets a hedge around his land shall not exceed the boundary; in the case of a wall, he shall leave one foot; in the case of a house, two feet . . . . If a well, a path, an olive or fig tree, nine feet."<sup>17</sup> The Statute of Winchester (1285) contained transportation planning and road regulations requiring specific road widths and the absence of trees, bushes and vegetation "whereby a man may lurk to do hurt . . . ."<sup>18</sup> This same statute reflects an early instance of "cooperative federalism," requiring the feudal lord to carry out the law's demands while giving the King prerogatives to assume duties neglected at the baronial level.

Although scholars disagree about how precisely ancient Mayan cities were organized, they understand that they followed a prescribed pattern designed to meet that ancient society's needs.<sup>19</sup> Many of the great cities founded in Latin America in the sixteenth century were developed in accordance with distinctly Spanish-urban planning concepts. Under the Law of the Indies, decreed in 1572 by King Philip II,<sup>20</sup> cities were laid out according to various guidelines, which changed depending on the climate, geography, and characteristics of the place. Viceroy's completed surveys akin to today's environmental impact assessments and sent them to Spain, where planners determined which guidelines were to be followed in each location.

The Act for the Rebuilding of the City of London regulated the materials of buildings to be raised in the devastated center of London following the fire of 1666, with violators penalized by fines

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17. TREASURY OF LAW 71 (Richard Nice ed., 1964).

18. The Statute of Winchester, 1285, 13 Edw. 1, stat. 2.

19. See John Noble Wilford, *In Maya Ruins, Scholars See Evidence of Urban Sprawl*, N.Y. TIMES, Dec. 19, 2000, at F1.

20. See Axel I. Mundigo & Dora P. Crouch, *The City Planning Ordinances of the Laws of the Indies Revisited: Part I: Their Philosophy and Implications*, 48 TOWN PLAN. REV. 247 (July 1977); see also Peter Bosselmann et al., *Urban Form and Climate: Case Study, Toronto*, 61 J. AM. PLAN. ASS'N 2 (1995).

and subject to demolition orders.<sup>21</sup> That act allowed the use of one of four types of buildings, prevented the construction of “irregular buildings,” empowered the common council to create an official street map, regulated building heights along certain streets, and prohibited “noisome trades” from locating in certain areas.

At the time of the formation of the American colonies, colonial charter companies and towns allocated private ownership of land to each founding family.<sup>22</sup> These grants were often subject to land use restrictions, such as requiring buildings to be perpendicular to the street and not exceeding thirty-five feet in height. In this early period, land uses were regulated more by conditions imposed on the land titles conveyed by colonial authorities than by governmental regulation. Lands granted to founding families were eventually subdivided by inheritance and transfer, creating lots for private use: agricultural, commercial, and residential. Colonial settlements evolved into cities, townships, and counties that eventually achieved governmental status and the power to legislate.

These municipalities were regarded not as sovereign entities but as creatures of the state, authorized by state law to exercise a wide variety of powers affecting the health, safety and welfare of their citizens. Most were deemed to have only those powers delegated by their state legislatures, and those additional powers fairly implied in that delegation. As early as 1787, the City of New York was granted power to enact laws directing private landowners to arrange buildings uniformly in certain neighborhoods.

An early land use planning act of the New York legislature, dated 1807, established a commission to lay out streets in the developing portions of New York City and to condemn title to land within established streets, to demolish buildings located on planned streets, and to compensate owners for the resulting damages.<sup>23</sup> In 1784, the Connecticut assembly had granted some cities authority to adopt laws regulating the placement and construction of private buildings. Similar laws were adopted in Virginia and Georgia at about the same time. By the end of the eighteenth century, post-colonial landowners had grown accus-

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21. Act for the Rebuilding of the City of London, 1666, 19 Car. 2, c.3; see PLATT, *supra* note 4.

22. See generally John F. Hart, *Land Use Law in the Early Republic and the Original Meaning of the Takings Clause*, in ZONING AND PLANNING LAW HANDBOOK (2000), reprinted from 94 NW. U. L. REV. 1099 (2000).

23. An Act relative to Improvements, touching the laying out of Streets and Roads in the City of New York, and for other Purposes. 1807 N.Y. Laws, c. 115.

tomed to governmental regulation of building on the land in the interests of public health, safety, and even aesthetics.<sup>24</sup>

In the nineteenth and twentieth centuries, many commonwealth countries and European nations adopted land use planning models that coordinated land use planning and regulation, particularly in cities.<sup>25</sup> Early German law was highly protective of individual property rights. The Prussian Land Law of 1794 liberally authorized every property owner to build upon his property or alter any buildings he owned. In 1871, the law added setback requirements, and in 1876 building in certain undeveloped areas was limited.<sup>26</sup> Illustrative of more modern approaches to land use control and environmental protection is Australia's 1991 Land Act. It establishes a nationwide system of planning and development regulation that focuses on both development and environmental values, including the preservation of cultural heritage and the requirement of environmental assessments in advance of development.

### III. The Rio Declaration

In the modern era, an international context for land use law reform was provided at the U.N. Conference on Environment and Development (UNCED) in 1992.<sup>27</sup> One-hundred seventy-two nations met that year in Rio de Janeiro, Brazil, for the Earth Summit, which was attended by nearly 100 heads of state. All of the participating nations endorsed the Rio Declaration on Environment and Development<sup>28</sup> and adopted Agenda 21, a 300-page plan for achieving sustainable development in the twenty-first century.<sup>29</sup> The core of the Declaration, and its twenty-seven principles, is a commitment to economic efficiency, environmental protection, and equity; the three pillars of sustainability. It contains an entitlement running to present and future populations:

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24. *Id.*

25. See discussion *infra* Part IV.

26. See Larsen, *supra* note 6, at 975.

27. UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT, RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, U.N. Doc. A/CONF. 151/5/Rev.1 (1992), reprinted in 31 I.L.M. 874 (1992) [hereinafter RIO DECLARATION].

28. *Id.*

29. *Report of the United Nations Conference on Environment and Development*, U.N. GAOR, 46th Sess., Annex 2, Agenda Item 21, U.N. Doc. A/CONF. 151/26 (1992) [hereinafter Agenda 21].

"Human beings . . . are entitled to a healthy and productive life in harmony with nature."<sup>30</sup>

The Rio Declaration is a study of connectivity: the importance of concentrating on all relevant aspects of sustainable development in making policies and adopting laws that implement them. Principles 3 and 4 of the Declaration demonstrate this imperative:

- Principle 3: The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.
- Principle 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

The eradication of poverty is an indispensable ingredient of sustainable development.<sup>31</sup> Environmental issues are to be addressed with the participation of concerned citizens who must have an opportunity to participate in the decision-making process and have complete information on relevant matters, which shall be broadly available. Effective access to judicial and administrative proceedings shall be provided.<sup>32</sup>

The Declaration recognizes the central place of law in achieving its aspirations. Constitutions and statutes create rights and policies, such as those articulated in the twenty-seven principles. The Declaration refers to conforming national policies to "international consensus"<sup>33</sup> which is given effect by international laws; i.e., conventions and treaties. It refers to the creation and enforcement of environmental and development standards which, to be effective, must be found in law. It is the law—enacted by national, state, and local governments—that creates administrative and judicial processes, establishes access to them, and requires information to be available. Agenda 21 is even more explicit on the topic: "Laws and regulations suited to country-specific conditions are among the most important instruments for transforming environment and development policies into action . . ."<sup>34</sup>

It is in Agenda 21, the report of UNCED, that the relevance of land use law to achieving sustainable development is dramatically

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30. RIO DECLARATION, *supra* note 27, Principle 1.

31. *Id.* Principle 5.

32. *Id.* Principle 11.

33. *Id.* Principle 12.

34. Agenda 21, *supra* note 29, § 8.13.

set forth. Agenda 21 is analogous to a comprehensive plan for the planet, similar in a sense to those adopted by nations, states, and local governments; a plan that defines where the community has come from, where it wishes to go, its demographic trends, how and where new populations will be settled and how they will be housed, the need for new infrastructure and services (such as schools, parks, roads, water and sewer systems, and public buildings), and provides for the preservation of valuable natural and cultural resources. The functions of the U.N. and its affiliated institutions that provide technical assistance and financial assistance are similar, on the global scale, to the roles played by national and state governments in establishing priorities, articulating policies, involving stakeholders, defining their roles, and making resources available that are sufficient to realize the objectives of the comprehensive plan.

Agenda 21 establishes land use goals: encouraging sustainable human settlements and integrating environmental considerations into development decisions.<sup>35</sup> Urban and regional planning and regulation are at the core of land use law and are the means by which governments influence the private sector to create human settlements. If current settlement patterns are not sustainable, law reform is called for. The *sine qua non* of land use regulation is to determine where development should go, how much of it—and what type of it—is needed, what interests it should serve, and how affordable and environmentally friendly it should be. Land use regulations empower land use agencies to review development proposals and to approve them if they meet established standards such as energy conservation and site planning that ameliorate environmental damage on site, next door, down river, and to the landscape.

Agenda 21 is replete with references to matters attainable through land use planning and regulation.<sup>36</sup> Section 7.5 refers to the provision of adequate shelter for all, promoting sustainable land use planning and management, promoting water, sanitation, drainage and solid waste management, and promoting sustainable construction industry activities.<sup>37</sup> Section 7.3 contains a planning strategy; it adopts the “enabling approach” through which governmental resources (money, data, and technical assistance) are used to influence private behavior and leverage private invest-

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35. Agenda 21, *supra* note 29.

36. *Id.*

37. *Id.* § 7.5.

ment.<sup>38</sup> Section 7.18 posits that “intermediate cities” should be encouraged in rural areas as a means of relieving the devastating pressures of migration to mega-cities.<sup>39</sup> The objective of section 7.28 is “to provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households . . . .”<sup>40</sup> Section 7.68 aims to ensure that the construction industry builds and locates buildings so that they avoid “harmful side-effects on human health and on the biosphere . . . .”<sup>41</sup>

Evidence abounds that the Rio accords (the Declaration and Agenda 21) are affecting lawmaking in countries on every continent.<sup>42</sup> A constitutional amendment in Argentina in 1994, two years after the UNCED in Rio, recognizes the right of all citizens “to a healthy, balanced environment fit for human development in order that productive activities shall meet present needs without endangering those of future generations.”<sup>43</sup> The General Law of Social Development adopted by the Mexican Congress in 2004 covers most of the bases of sustainable development. It is an aspirational law, containing ambitious and comprehensive goals, promoting respect for natural resources, encouraging economic growth, addressing poverty through the distribution of resources, and creating educational and job opportunities.

#### IV. “Urban” Planning: Shaping Land Use Patterns

Many nations have adopted legal regimes for the purpose of creating and implementing city, town, and regional planning. Master plans, sometimes called comprehensive plans, can be local or regional in scope, consistent with or ignorant of regional plans and needs, and concern themselves with a truly impressive list of critical subjects which affect the public’s well-being and private property rights.

City planning is a science and an art concerned primarily with the city’s ever-changing pattern. As a pure science, it examines causes (history and etiology) and reciprocal influences of man and environment (urban geography and ecology). As applied sci-

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38. *Id.*

39. Agenda 21, *supra* note 29, § 7.18.

40. *Id.* § 7.28.

41. *Id.* § 7.68.

42. See COMPENDIUM OF LAND USE LAW AND SUSTAINABLE DEVELOPMENT, *supra* note 16.

43. CONST. ARG. Pt. I, art. 41.

ence, it synthesizes these findings with those of the economic, sociological, and political sciences as well as the technological branches of statistics, civil and sanitary engineering, architecture, landscape architecture, and other pertinent branches of human knowledge, in an attempt to thoroughly understand conditions and their contexts and trends. As an art, it utilizes these materials, instructs or organizes citizens, molds events, and thwarts or guides trends to bring about the changes in city design which it contemplates.<sup>44</sup>

"City planning," of course, is a misnomer. Land use planning laws and policies must concern themselves with the entire landscape comprising urban, suburban, exurban, and rural areas. What emerged as a body of law focused on human settlements in urban places has become more comprehensively the "law of the land." From a global perspective, in fact, "land use planning" now reaches to include "ocean planning"; the relationship between land-based activities and the health of marine environments is clearly understood and must be similarly linked in law.

This point is easily illustrated. The U.N. Convention on the Law of the Sea has been ratified by 147 nations. In describing the need for this global convention to protect oceans, the U.N. points to the concerns of scientists that "the ocean's regenerative capacity will be overwhelmed by the amount of pollution it is subjected to by man."<sup>45</sup> The United Nations also notes that signs of catastrophic effects on oceans and marine life are clearly observable, particularly along heavily populated coasts. One of the major sources of pollution is, of course, land-based activity. The Convention obliges signatory nations to protect the marine environment. Coastal nations are "empowered to enforce their national standards and anti-pollution measures within their territorial sea."<sup>46</sup>

The U.N. describes this Convention as "possibly the most significant legal instrument of this century."<sup>47</sup> It declares that states have an obligation to protect the marine environment and calls on them to take all measures necessary to prevent marine

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44. JAMES FORD, *SLUMS AND HOUSING* 490 (1936).

45. See *United Nations Convention on the Law of the Sea*, 21 I.L.M. 1261, Dec. 10, 1982 (entered into force Nov. 16, 1994), available at <http://www.un.org/Depts/los/index.htm>; see also *The United Nations Convention on the Law of the Sea (a historical perspective)*, at [http://www.un.org/Depts/los/convention\\_agreements/convention\\_historical\\_perspective.htm](http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm). The U.S. has not acceded to this convention.

46. See *The United Nations Convention on the Law of the Sea (a historical perspective)*, *supra* note 45.

47. *Id.*

pollution from any source.<sup>48</sup> This, of course, requires states to adopt legislation to prevent the type of land-based pollution that can be so harmful to the marine environment, a process that implicates federal, state, and local law. The Convention assumes that national governments have legal power to regulate land-based activities in coastal states. Legal competence regarding environmental and land use matters is generally assumed by other critical international agreements as well.<sup>49</sup> As a result, the land use planning regimes of nations, states, and municipal governments must be concerned with and collectively competent to control the use of the planet's resources—namely land, water, and air.

### A. Brazil

Under Brazil's Federal Constitution, the basis for urban development is the master plan. Master plans must be adopted by cities with populations greater than 20,000 and are optional for smaller cities.<sup>50</sup> The Constitution contains a novel requirement: urban property must serve a social function, which means that such property be used as provided for in the city's master plan.<sup>51</sup> The Constitution enables cities to compel the appropriate use of underused property through mechanisms such as compulsory subdivision, increased property taxes, and expropriation.<sup>52</sup>

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48. *Id.*

49. *See* Agenda 21, *supra* note 29. The Preamble states:

Humanity stands at a defining moment in history. We are confronted with . . . the continuing deterioration of the ecosystems on which we depend for our well being. However, integration of environment and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can—in a global partnership for sustainable development.

*Id.*

50. C.F. title VII, ch. II, art. 182 ("The master plan, approved by the City Council, which is compulsory for cities of over twenty thousand inhabitants, is the basic tool of the urban development and expansion policy."). The full text of the Brazilian Constitution is available in English translation at [http://www.oefre.unibe.ch/law/icl/br00000\\_.html](http://www.oefre.unibe.ch/law/icl/br00000_.html) (last visited Sept. 6, 2005).

51. *Id.* at art. 182, para. 2 ("Urban property performs its social function when it meets the fundamental requirements for the city's organization as set forth in the master plan."); *see also id.* at title II, ch. I, art. 5 ("the right to own property is guaranteed . . . [and] ownership of property shall attend to its social function.").

52. *Id.* at art. 182, para. 4. Brazil's Constitution provides that:

The Municipal Government may, by means of a specific law, in relation to areas included in the master plan, demand, according to federal law, that



The federal statute that sets out the guiding principles of Brazil's national urban policy—the Statute of the City<sup>53</sup>—was enacted in 2001 to carry out the provisions of Articles 182 and 183 of the Federal Constitution.<sup>54</sup> These articles put the formulation of urban policy squarely in the hands of municipalities and create a nexus between the proper “social” function of property and the municipal master plan. The statute’s goal is to regulate the use of urban property for the good of the community, to protect the safety and well-being of the citizens, and to achieve environmental equilibrium.<sup>55</sup> The statute’s guiding principles for national urban policy<sup>56</sup> include:

- A citizen’s right to sustainable cities;<sup>57</sup>
- Public participation in the discussion and execution of plans, programs, and projects of urban development;<sup>58</sup>
- City planning conducted to prevent distortions in urban growth and negative impacts on the environment;<sup>59</sup>
- Protection, preservation, and remediation of the natural and built environment;<sup>60</sup> and,
- Participation of municipalities and the public in making decisions about development or activities with potential negative impacts on the natural and built environment.<sup>61</sup>

## B. China

The Environmental Protection Law of the People’s Republic of China, Chapter III, provides that “the targets and tasks for pro-

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the owner of unbuilt, underused, or unused urban soil provide for adequate use thereof, subject, successively, to: I. compulsory subdivision or construction; II. rates of urban property and land tax that are progressive in time; III. expropriation with payment in public debt bonds issued with the prior approval of the Federal Senate, redeemable within up to ten years, in equal and successive annual installments, ensuring the real value of the compensation and legal interest.

*Id.*

53. Law no. 10.257, de 10 de Julio de 2001, D.J.U. de 2002 [hereinafter Statute of the City]; reprinted in U.N. HABITAT, *The Statute of the City: New Tools for Assuring the Right to the City in Brasil* (2002), available at [http://www.polis.org.br/obras/arquivo\\_163.pdf](http://www.polis.org.br/obras/arquivo_163.pdf) (last visited Sept. 6, 2005).

54. U.N. HABITAT, *supra* note 53.

55. *Id.* at 40 (art. 1).

56. *Id.* (art. 2, I to XVI).

57. *Id.* (art. 2, I).

58. U.N. HABITAT, *supra* note 53, at 40 (art. 2, II).

59. *Id.* (art. 2, IV).

60. *Id.* at 42 (art. 2, XII).

61. *Id.* (art. 2, XIII).

tecting and improving the environment shall be defined in urban planning.”<sup>62</sup> The chapter requires that all levels of government establish measures to protect “regions representing various types of natural ecological systems, regions with a natural distribution of rare and endangered wild animals and plants, regions where major sources of water are conserved, geological structures of major scientific and cultural value . . . . Damage to the above shall be strictly forbidden.”<sup>63</sup>

Planning in rural areas is provided for by this language:

The people’s governments at various levels shall provide better protection for the agricultural environment by preventing and controlling soil pollution, the desertification and alkalization of land, the impoverishment of soil, the deterioration of land into marshes, earth subsidence, the damage of vegetation, soil erosion, the drying up of sources of water, the extinction of species and the occurrence and development of other ecological imbalances . . . .<sup>64</sup>

### C. Europe

In Europe, Sweden enacted an early comprehensive town planning law in 1874, which provided for some land use planning in all of its towns and cities.<sup>65</sup> There is a strong German tradition of comprehensive planning, directed from the top down, with plans at the state, regional, and local level—and with a tradition of self-government where local authorities adopt plans and zoning to control growth around preserved historic centers with open space retained at the periphery. Early French city planning, which emphasized infrastructure development, particularly transportation planning, was conducted primarily at the national level until 1982, when the French parliament adopted a law that transferred significant land use planning and project approval authority to the country’s more than 35,000 municipalities.<sup>66</sup>

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62. Environmental Protection Law of the People’s Republic of China (promulgated by the Standing Comm. Nat’l People’s Cong., Dec. 26, 1989, effective on the date of promulgation), art. 22.

63. *Id.* art. 17.

64. *Id.* art. 20.

65. See generally Patrick Abercrombie, *International Contributions to the Study of Town Planning and City Organization*, 4 TOWN PLAN. REV. 98 (July 1913).

66. See INTERNATIONAL HANDBOOK ON LAND USE PLANNING, *supra* note 6, at 283-94.

Although there are at least four distinct traditions in Europe—Germanic, Napoleonic, Scandinavian, and Eastern European—,<sup>67</sup> environmental standards and laws have become more homogeneous under the Single European Act of 1987 and Article 130 of the 1993 Treaty on European Union.<sup>68</sup> The European Union's (EU) European Spatial Development Perspective (ESDP), issued in 1999, is a voluntary strategic plan that guides national, regional, and local authorities in the EU regarding economic development, transportation, and cultural and natural heritage issues. Legal authority and regulatory power remain in the national governments participating in the EU.

#### D. Germany

When the Federal Republic of Germany was founded in 1949, there was no national understanding of the role of government in land use planning. The new constitution of the republic included a commitment to achieving "equivalent living conditions" throughout the country, which required some national scheme for land use planning.<sup>69</sup> A federal law adopted in 1960 established procedures for adopting local building and zoning laws. In 1965, a much broader land use planning law was adopted that created a framework for ordering the roles and influences of the national, state, and local governments in land use planning and regulation.

The German Constitution gives the federal government certain areas of exclusive jurisdiction and establishes other areas where it enjoys concurrent jurisdiction with the states. Land use planning falls in this latter category. The federal framework law for land use planning allows the federal government to establish national standards and then requires states to adopt more detailed legislation implementing the national policies. The national law applies to all parts of the German Republic, targets economic, infrastructure, social and cultural needs, and pursues the principles of environmental protection and equivalent living conditions for all people in the country. The law establishes a highly inte-

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67. See generally PETER NEWMAN & ANDY THORNLEY, *URBAN PLANNING IN EUROPE: INTERNATIONAL COMPETITION, NATIONAL SYSTEMS AND PLANNING PROJECTS* (1996).

68. See generally THOMAS H. REYNOLDS & AURURO A. FLORES, *FOREIGN LAW, CURRENT SOURCES OF CODES AND LEGISLATION IN JURISDICTIONS OF THE WORLD* (1991); see also GERD WINTER, *EUROPEAN ENVIRONMENTAL LAW, A COMPARATIVE PERSPECTIVE* (1996).

69. See Larsen, *supra* note 6, at 981-1002 (regarding authority for German land use planning law).

grated process that coordinates federal, state, and local ministries, informs their respective planning processes, and requires land use activities to consider and respect conditions in neighboring jurisdictions.

Under this system, states must adopt land use plans that respect federal interests and identify specific areas where equivalent living conditions are not being maintained, including urban areas where environmental pollution, inadequate transportation, and problems of population concentration are improperly controlled. States are to identify planning regions and prepare regional plans. At the federal level, a system of central cities is created and towns and cities are typed based on the level of development that is to be concentrated in each category. These designations guide federal and state land use, environmental, and infrastructure planning.

## E. Mexico

Mexican lawmakers and the nation's executive have recently made a strong commitment to sustainable development in a country whose abundant resources are threatened on a variety of fronts, most notably by the migration of rural poor to metropolitan areas. Paragraph three of Article 27 of the Mexican Constitution grants Congress the power to adopt provisions for the development of human settlements and planning the growth of population centers.<sup>70</sup> The national administration adopted a plan committing the government to sustainable development while noting that "environmental protection and sustainable use of natural resources represent a social mandate and a government commitment. Likewise, sustainable development is a task that requires, besides government action, the commitment of all sectors of society."<sup>71</sup> The National Development Plan emphasizes the importance of developing an integrated legal framework, promoting democratic processes of sustainable development, and developing efficient governmental entities and strategies.<sup>72</sup> Among these strategies is the creation of an adequate land use plan that promotes social inclusivity, a sustainable environment, and economic

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70. CONST. MEX. art. 27, para. 3.

71. See SEMARNAT, NATIONAL PROGRAM OF ENVIRONMENTAL AND NATURAL RESOURCES 2001-2006 (2001) (statement of President Vicente Fox).

72. *Id.*

efficiency.<sup>73</sup> The recently adopted General Law of Social Development declares that Mexican citizens have a right to a healthy environment and focuses on parallel goals of improving social development and biodiversity protection.<sup>74</sup>

## F. United Kingdom and the Commonwealth

In England and Wales, a piecemeal process of town and country planning was enacted into law in 1909 and became more comprehensive and compulsory following the Second World War.<sup>75</sup> Under the 1947 Town and Country Planning Act, Parliament delegated planning authority to local governments with responsibility to control all land development, prepare a development plan for their jurisdictions, and establish redevelopment strategies for war-ravaged neighborhoods. The central government under this Act retained the power to formally approve local development plans following a public inquiry. A centralized process is established for hearing grievances regarding local development decisions.

British urban planning and redevelopment law affected national laws throughout the colonial world, including countries in Asia, Africa, and the Caribbean. The first notable influence was the Housing for the Working Classes Act of 1890, which influenced land use controls in Asia and Africa. Under this program, public entities were created by the state government to conduct planning at the municipal level. In India, at the beginning of the twentieth century, laws based on the 1909 British town and country planning act were adopted. Town planning, following the British model, came to Africa as early as 1929 with the adoption of the Lagos Town Planning Ordinance, under which control was centralized rather than distributed to municipally elected authorities. In its earliest manifestations, planning bore the stamp of colonial control and helped create and perpetuate racial and social segregation.

Following the adoption of the Town and Country Planning Act in Britain in 1947, Britain's Colonial Office developed a model

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73. See National Development Plan of 2001-2006, D.O. §§ 5.3.4-5.3.5, May 30, 2001 (promoting and developing a general policy where all people are included through a comprehensive development and public participation), available at <http://pnd.presidencia.gob.mx/index.php?idseccion=42> (last visited Sept. 6, 2005).

74. L.G.D.S., Jan. 20, 2004.

75. See generally U.K. Government Planning Portal, at <http://www.planningportal.gov.uk> (last visited Sept. 6, 2005).

planning act, based in part on an ordinance adopted in 1938 in Trinidad and Tobago, which influenced the adoption of land use and planning laws in Africa and the Caribbean. The model was adjusted to the particular needs of each country and region. Much of this effort, in the middle of the last century, was aimed at eradicating substandard housing conditions through slum clearance and urban redevelopment. By the early 1960s, in many post-colonial countries in Africa, the Caribbean, and South East Asia, the pattern of urban planning developed in Britain became part of the general development and modernization strategy.<sup>76</sup> In recent years, the British model has been criticized as being authoritarian, socially divisive, and difficult to administer in developing countries. While its influences remain, land use laws in developing nations that are former commonwealth countries are becoming more diverse and influenced by indigenous ideas regarding the organization of development in cities and the landscapes beyond. The British approach itself in recent years has become more open and democratic, with significant participation and decision-making exercised at the local, even neighborhood, level.<sup>77</sup> The experience in countries influenced so heavily by British approaches, of course, is highly varied and idiosyncratic.

## V. Human Settlements, Decent Housing, and Slum Eradication

The work and deliberations of the United Nations Commission on Human Settlements and the U.N.'s two global conferences on world settlements provide a useful complement and contrast to the topic of town and country—or land use—planning. Since the Conference on Human Settlements in Vancouver, Canada, in 1976 (known as Habitat I), the conditions of human settlements in metropolitan areas have worsened significantly around the globe, particularly for the poor. Concerns regarding slums and inadequate housing in large metropolitan areas led to the Second United Nations Conference on Human Settlements (Habitat II) held in 1996 in Istanbul, Turkey.

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76. See generally MCAUSLAN, *supra* note 6, at 84-105.

77. See U.K. Government Planning Portal, *supra* note 75. "Existing town and country planning legislation was consolidated into three Acts: the Town and Country Planning Act, 1990; the Planning (Listed Buildings and Conservations Areas) Act, 1999; and the Planning (Hazardous Substances) Act, 1990." *Id.* at <http://www.planningportal.gov.uk/wales/government/en/1105619050598.html> (last visited Sept. 6, 2005).

The conditions in slums are health threatening: slums are communities without basic services such as piped water, sanitation, or health care. According to the Global Report on Human Settlements — *The Challenge of Slums* — the total number of people living in slums in 2003 was 928 million and growing. At the end of this decade, over fifty percent of the world's population will live in urban areas, reflecting a steady migration from rural to metropolitan areas over the last century. A dramatic example of this trend is evidenced in Mumbai, India, where over half of the population lives in slums and eighty percent of the slum dwellers live in houses smaller than 100 square feet.<sup>78</sup> Worldwide, many urban dwellers live in absolute poverty: estimates run as high as one billion.<sup>79</sup> Recent demographic trends indicate that ninety-four percent of the world's total population growth will occur in developing countries, and that eighty-six percent of this growth will occur in urban areas. The production of 39,000 additional housing units *daily*, mainly in metropolitan areas, will be required to accommodate the projected population growth of developing countries.<sup>80</sup>

Laws and planning strategies that deal with urban slums, and shelter for the poor and near-poor, are a critical and distinct element of town and country planning. The focus here is on individuals in need of shelter, the neighborhoods they inhabit, and their need for services and jobs. Notable obstacles confronted by public bodies working on these problems are illegal housing possessed by squatters and the isolation and marginalization of slum residents from mainstream urban populations.

Since the 1988 adoption by the General Assembly of the Global Strategy for Shelter to the Year 2000, the strategy of choice regarding the provision of shelter is to use public policy and resources to facilitate or enable non-public actors, particularly the private sector, to solve the world's worsening shelter problems. This contrasts with the more interventionist approach witnessed in some traditions of urban planning that emphasizes detailed public plans, public ownership of infrastructure and protected

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78. VINIT MUKHIJA, SQUATTERS AS DEVELOPERS?: SLUM DEMOLITION AND REDEVELOPMENT IN MUMBAI, INDIA 23 (2003).

79. See UN-HABITAT, *Cities Without Slums*, WORLD URB. FORUM, Mar. 18, 2002, available at [http://hq.unhabitat.org/cdrom/unhabitat\\_cdrom/html/documents/dlg1paper4.pdf](http://hq.unhabitat.org/cdrom/unhabitat_cdrom/html/documents/dlg1paper4.pdf) (last visited Sept. 6, 2005).

80. *Id.*

open space, and extensive regulation of privately owned land in developing and redevelopment areas.<sup>81</sup>

The Istanbul Declaration on Human Settlements (Habitat II, 1996) responds to the continuing deterioration of conditions of shelter and human settlements by announcing “a new era of cooperation” and offering a “positive vision of sustainable human settlements.”<sup>82</sup> The global problems it addresses are unsustainable population change, excessive population concentration, homelessness, the lack of basic infrastructure and services, and insufficient planning. It tackles two issues: the need for adequate shelter for all and sustainable human settlements in an urbanizing world.<sup>83</sup> The Declaration affirms the “progressive realization of the right to adequate housing” and seeks to ensure “legal security of tenure.”<sup>84</sup>

The Istanbul Declaration, consistent with the Rio Declaration of 1992, emphasizes connectivity—the interdependence of rural and urban development, the need for a network of settlements, the participation of all public, private, and non-governmental stakeholders in decision-making, and the need to involve all levels of government in the resolution of settlement problems.

To be effective, these human settlement principles and strategies will have to influence urban planning itself. The accommodation of new housing, slum eradication, neighborhood revitalization, and urban redevelopment are central to the traditions of town and country planning. Land use regulation’s focus is on the proper location and accommodation of new residential and job development. Effective human settlement strategies—including the provision of water and sewerage facilities, transportation, and the redevelopment of deteriorated areas—are the day-to-day currencies of the planning field and the concerns of planning and zoning law.

In Mexico, in 2003, the Secretariat of Social Development initiated Program Habitat, focusing on the neediest populations in the nation’s urban centers. Program Habitat in Mexico encourages the establishment of land use plans and protection of the nat-

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81. See *The Habitat Agenda and Istanbul Declaration: Preamble*, U.N. Doc. A/CONF.165/PC.3/4 (June 14, 1996), available at <http://www.unchs.org/unchs/english/hagenda> [hereinafter *Istanbul Declaration*].

82. *Istanbul Declaration*, *supra* note 81, at § 15. The *Istanbul Declaration* endorses “the universal goals of ensuring adequate shelter for all and making human settlements safer, healthier and more livable, equitable, sustainable, and productive.” *Id.* § 1.

83. *Id.*

84. *Id.* § 8.



ural environment; it aspires to improve housing conditions, combat poverty, and revitalize neighborhoods.<sup>85</sup>

In the United Kingdom, the Office for National Statistics estimates that there is a need for 4.3 million new homes by 2021. The nation's housing stock is aging, the size of households is decreasing, and the population is increasing and living longer. The Sustainable Communities Plan, issued by the Deputy Prime Minister in 2003, follows a policy that assists the private market to address housing market failures in the north of England and development pressures in growing areas such as London itself. The government plans to invest \$40 billion (U.S.) in this effort over several years, concentrating on the provision of physical infrastructure, transportation, land acquisition, and public services. The program supports three types of projects: those in center cities, the repair of postwar new towns, and the expansion of urban areas in and around existing towns. The essential land use strategy here is one of defining priority growth districts and leveraging public investments to induce private sector intervention.<sup>86</sup>

## VI. Governmental Organization and Constitutional Framework

The proper development and conservation of land, both privately and publicly held, requires great coordination among levels of government, the private and public sectors, and even nations themselves. The use and preservation of natural resources, the process of urbanization, and the economics and environmental impacts of land use involve federal, state, and local interests and deeply affect private landownership, wealth, and economics. The structure of governments and the substance of public policies affecting land ownership are generally created when a nation's constitution is first framed or restructured over time. Quite often, governmental systems and policies were established to deal with issues markedly different from those presented by the emerging world's crisis in sustainable development. Without adjusting these institutional arrangements and individual expectations, little progress can be made.

In the words of Agenda 21, "[a]n adjustment or even a fundamental reshaping of decision-making . . . may be necessary if envi-

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85. See Subsecretaria de Desarrollo y Ordenación del Territorio, available at <http://www.sedesol.gob.mx/subsecretarias/desarrollourbano/programahabitat.htm> (last visited Sept. 6, 2005).

86. See Bill Hanway, *Sense of Place in the U.K.*, URB. LAND, Aug. 2004, at 66-71.

ronment and development is to be put at the [center] of economic and political decision-making, in effect achieving a full integration of these factors.”<sup>87</sup> The objectives tied to this goal are to allow the full integration of environmental and developmental issues at all levels of decision-making, to facilitate the involvement of concerned individuals, groups, and organizations in decision-making at all levels, and to establish domestically determined procedures to integrate environment and development issues in decision-making.<sup>88</sup>

In recent years, a number of notions about governmental organization have been articulated that respond to and refine these aspirations.<sup>89</sup> One is that all levels of government should be involved in a collaborative enterprise, with each contributing and controlling according to its particular interests and competencies. Another is that the full participation of all interested stakeholders is necessary to achieve success, for the system to respond to all interests, and to earn the confidence it needs to succeed as elections are held or governments gradually or abruptly change. A third is that governmental policy setting and regulation should be transparent, open, and incorruptible. The specifics here include open meetings laws, public hearing requirements, availability of public information to the public, citizen participation requirements, opportunities to be heard, and the right of those aggrieved by decisions to seek judicial or other remedies. By observing how lawmakers amend their systems, share power, open up decision-making, and delegate responsibility, it is possible to observe the process of reorganization so that effective regimes can be created.

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87. Agenda 21, *supra* note 29, § 8.2.

88. See *id.* § 8.3; see also RIO DECLARATION, *supra* note 27, at Principle 10. The Declaration states that:

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

*Id.*

89. *Id.* § 8.2.

## A. Citizen Participation

Evidence that lawmakers are taking these principles into account in drafting laws affecting sustainable development is found in many recently adopted land use laws. Regarding progressive reforms to involve citizens in planning and policy formulation, this list illustrates what is being done:

The South Australia Development Act of 1993 requires planning and regulation of development throughout the state and establishes several advisory committees to assist the state authority: a Development Policy Advisory Committee, a Development Assessment Commission, and a Major Developments Panel. The law contains specific membership requirements and duties for these panels to perform.<sup>90</sup>

The Manitoba Sustainable Development Act not only provides for the creation of an advisory board but provides funding for that body to ensure that it can effectively perform its advisory function.<sup>91</sup>

Argentina's General Environmental Law recognizes the right of citizens to have access to environmental information and establishes an obligation to develop a National Integrated System of Information.<sup>92</sup>

The Argentine Constitution<sup>93</sup> grants broad power to all affected parties to file judicial appeals to defend the collective right to a healthy environment.

Under the Czechoslovak Act on Land Use Planning and Construction Rules,<sup>94</sup> neighbors, private individuals, concerned administrative authorities, and businesses affected by proposed governmental land use decisions are given the right to submit comments and to participate in hearings conducted on land use approvals and decisions such as land use plans, locational decisions, construction permits, and construction approvals.

The Law on Territorial Planning of the Republic of Lithuania<sup>95</sup> provides for the creation of a territorial planning databank

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90. South Australia Development Act, 1993, *available at* <http://www.planning.sa.gov.au/edp/pdf/trees.pdf> (last visited Sept. 6, 2005).

91. C.C.S.M. C. 5270 (June 28, 1997), *available at* <http://wxba.gov.mb.callaws/statutes/ccsm/5270c.php> (last visited Sept. 6, 2005).

92. Law No. 25.675, Nov. 27, 2002, Art. 17.

93. CONST. ARG., Pt. 1, art. 43(2), *available at* [http://www.oefre.unibe.ch/law/icl/ar00000\\_.html](http://www.oefre.unibe.ch/law/icl/ar00000_.html).

94. Zákon è. 50/1976 Sb. (amended 103/1990, 262/1992).

95. Law on Territorial Planning of the Republic of Lithuania, 1995 12 12, No. I-1120.

and for public access to all planning data and proposals. It requires public notice and public meetings prior to the adoption of any planning proposals and guarantees the right of administrative and judicial appeal. There are strong provisions for review and enforcement, and mechanisms for resolving disputes.

The Village Land Act of Tanzania<sup>96</sup> provides for the establishment of a Village Land Council, the creation of a village advisory committee, and the creation of an Elders' Council to handle mediation of disputes between parties. The Act refers to "land sharing arrangements between pastoralists and agriculturalists," and villages are authorized to enter into joint land use agreements with any other village council concerning the use of land by one or more groups.<sup>97</sup> Information regarding programs created to implement the provisions of the Act must be provided throughout the nation and translated into native languages.<sup>98</sup> The Act secures land rights that promote women's economic empowerment; it grants Tanzanian women the right to acquire title to land and to register their titles. The Act also promotes women's representation in land use decision-making bodies.

## B. Constitutional Rights

The first principle of the Rio Declaration is that "human beings . . . are entitled to a healthy and productive life in harmony with nature."<sup>99</sup> Perhaps the most obvious evidence that the legal system is in alignment with the principles of sustainable development is when they appear in national constitutions or in key policy documents. Article 24 of the African Charter on Human and Peoples' Rights states that: "All peoples shall have the right to a general satisfactory environment favorable to their development."<sup>100</sup> Chapter 2 of the Constitution of South Africa tracks both this African Charter and the Rio Declaration.<sup>101</sup> It states:

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96. The Village Land Act, The United Republic of Tanzania, No. 5 of 1999, Pts. IV-V.

97. *Id.* Pt. IV, § 58.

98. *Id.* Pt. V, § 66(1). "The minister shall as soon as practicable after the enactment of this Act cause this Act to be translated into Kiswahili and such translation shall be published in the Gazette and [i]n such other manner and form as will enable the citizens of Tanzania to gain access to such translation." *Id.*

99. See *supra* note 27.

100. *Organization of African Unity: Banjul Charter on Human and Peoples' Rights*, CAB/Leg/6713/Rev, 5 (Jan. 7-19, 1981), 21 I.L.M. 59, 63 (1982).

101. CONST. S. AFR. ch. 2, § 24 (Bill of Rights), available at <http://www.info.gov.za/documents/constitution/1996/96cons2.htm#24>.

Everyone has the right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.<sup>102</sup>

According to the List of Fundamental Rights and Freedoms of the Czech Constitution, citizens have a right to live in an environment favorable to health and well-being.<sup>103</sup> The Hungarian Constitution of 1949 recognizes the right of all citizens to a healthy environment.<sup>104</sup> The government of Lithuania and its citizens are obligated to protect the environment under Article 53 of the 1992 Constitution;<sup>105</sup> Article 54 prohibits the destruction and depletion of the land, forests, and wildlife, as well as the pollution of water and air.<sup>106</sup> Article 21 of the Constitution of the Netherlands states that it is the responsibility of the public authorities to ensure the habitable nature of the land and "to protect and improve the environment."<sup>107</sup>

### C. Involvement of Municipal Government

The Istanbul Declaration clearly recognizes and trumpets the importance of local governments: towns, cities and villages.<sup>108</sup> They are "our closest partners," who are the most democratic and provide the most effective approach to appropriate human settlements.<sup>109</sup> It recognizes the need to strengthen municipal financial and institutional capacities.<sup>110</sup> According to the 2002 World Urban Forum report, this process of improving capacity at the local level is slow to develop:

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102. *Id.*

103. CONST. CZECH. ch. 4, art. 35 (Charter of Fundamental Rights and Freedoms), available at <http://www.psp.cz/cgi-bin/eng/docs/laws/charter.html>.

104. CONST. HUNG. ch. 1, art. 18 (1949), available at [http://www.oefre.unibe.ch/law/icl/hu00000\\_.html](http://www.oefre.unibe.ch/law/icl/hu00000_.html).

105. CONST. LITH. ch. 4, art. 53, available at [http://www.oefre.unibe.ch/law/icl/lh00000\\_.html](http://www.oefre.unibe.ch/law/icl/lh00000_.html).

106. *Id.* art. 54.

107. CONST. NETH. ch. 1, art. 21(1983), available at [http://www.oefre.unibe.ch/law/icl/nl00000\\_.html](http://www.oefre.unibe.ch/law/icl/nl00000_.html).

108. Istanbul Declaration, *supra* note 81.

109. *Id.* § 12.

110. *Id.*

The most important difficulty in the decentralization process is the limitations of transfer of authority. Legal and administrative frameworks should promote autonomy over the acquisition and expenditure of public revenues. On the other hand, lack of participatory planning processes, limitations in the capacity of civil society organizations and modalities to involve the most vulnerable groups in decision-making appear as factors at the local level hindering the effectiveness of decentralization.<sup>111</sup>

Evidence of municipal involvement in making land use decisions is found in the Lithuanian Law on Fundamentals of Local Government, which establishes the competence of districts and towns within the national land use planning system.<sup>112</sup> In Hungary, under Act No. iii on Housing & Construction, as amended in 1993, the central government prepares regional land use plans and municipalities prepare local plans.

The South African Constitution contains a blueprint for local government engagement in a national system of government regarding land use management.<sup>113</sup> It states that municipal governments must be established for the whole of the territory of the Republic, each of which has the right to govern regarding its own affairs, subject to national and provincial legislation.<sup>114</sup> Among the constitutional objectives of local government are "to promote social and economic development; to promote a safe and healthy environment; and to encourage the involvement of communities and community organizations in the matters of local government."<sup>115</sup> Finally, the constitution provides that the national government and provincial governments, "by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions."<sup>116</sup>

Under Article 9 of the Environmental Protection Law of the People's Republic of China:

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111. UN-HABITAT, *supra* note 79, at 13, para. 56.

112. Law on the Fundamentals of Local Government, SUPREME SOVIET OF THE LITHUANIAN SOVIET SOCIALIST REPUBLIC (Feb. 12, 1990) (Adopted at the Seventeenth Session of the Supreme Soviet of the Lithuanian SSR, Eleventh Convocation), at <http://www.litlex.lt/Litlex/Eng/Frames/Laws/Documents/213.HTM>.

113. CONST. S. AFR. ch. 7, available at <http://www.info.gov.za/documents/constitution/1996/96cons7.htm>.

114. *Id.* art. 151.

115. *Id.* art. 152.

116. *Id.* art. 154.

The people's governments of provinces, autonomous regions and municipalities directly under the Central Government may establish their local standards for environment quality for items not specified in the national standards for environment quality and shall report them to the competent department of environmental protection administration under the State Council for the record."<sup>117</sup>

## D. Restructuring of Institutional Arrangements and Decision-Making

### 1. Argentina

The Constitution of Argentina, Section 41, after recognizing its citizens' right to enjoy a healthy environment, requires the federal Congress to establish minimum standards at the national level and to create an integrated system of national and provincial legislation to enforce those standards.<sup>118</sup> The General Environmental Law, Article 4, contains provisions delegating authority to provincial and municipal governments according to their respective competencies.<sup>119</sup> In the Argentine Constitutional Reform of 1994, a provision was added to the constitution that ensures "municipal autonomy, regulating its scope and content in the institutional, political, administrative, economic and financial order."<sup>120</sup> The Constitution of the City of Buenos Aires, adopted in 1996, requires the city to adopt planning and environmental management policies and to adopt a framework plan with which all land use regulations and public works projects must conform.<sup>121</sup>

### 2. Australia

A remarkable legal invention, The Australian Oceans Policy adopts land-based zoning strategies and applies them to its state and national territorial waters.<sup>122</sup> This policy is contained in an

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117. ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE'S REPUBLIC OF CHINA (FOR TRIAL IMPLEMENTATION), art. 9, available at [http://www.novexc.cn/environmental\\_protect\\_law.html](http://www.novexc.cn/environmental_protect_law.html).

118. CONST. ARG. ch. 2, § 41.

119. General Environmental Law, No. 25.675, art. 4.

120. CONST. ARG. div. 4, tit. 2, § 123.

121. CONST. BUENOS AIRES (Constitución de la Ciudad Autónoma de Buenos Aires), available at <http://www.legislatura.gov.ar/1legisla/constcba.htm>.

122. Government of the Commonwealth of Australia, National Oceans Office, *Australia's Ocean Policy*, available at <http://www.oceans.gov.au> (click the flash option, then select "Australia's Oceans Policy" under the "Policy & Planning" menu, then select either the html or pdf version of the policy)[hereinafter *Australia's Ocean Policy*]:

executive document released by the Australian government.<sup>123</sup> It applies to the extensive oceans subject to the country's sovereignty, dividing them into six marine regions, each defined by their distinct biophysical marine characteristics. Within each of these domains, numerous management practices are defined that are to be implemented over time.<sup>124</sup>

Motivating the policy is the "stark warning" given by the collapse of major marine ecosystems and fisheries resources in the northern hemisphere.<sup>125</sup> The policy recognizes that urban and infrastructure development in coastal zones place increasing demands on coastlines and oceans and that past management practices have not effected the amelioration of adverse human impacts on ocean health and productivity.<sup>126</sup> The goals of the policy include meeting Australia's international obligations under the United Nations Convention on the Law of the Sea and establishing integrated ocean planning and management arrangements involving the national and state governments, their agencies, and the public.<sup>127</sup>

The policy, issued by the National Oceans Office, establishes a planning process for each of the six regional marine zones within which integrated planning will occur in territorial ocean dis-

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Australia's Oceans Policy sets in place the framework for integrated and ecosystem-based planning and management for all of Australia's marine jurisdictions. It includes a vision, a series of goals and principles and policy guidance for a national Oceans Policy. Building on existing effective sectoral and jurisdictional mechanisms, it promotes ecologically sustainable development of the resources of our oceans and the encouragement of internationally competitive marine industries, while ensuring the protection of marine biological diversity. At the core of the Oceans Policy is the development of Regional Marine Plans, based on large marine ecosystems, which will be binding on all Commonwealth agencies. The first Regional Marine Plan will be developed for the south-eastern region of Australia's Exclusive Economic Zone. Broadly, this will include waters off Victoria, Tasmania, southern New South Wales and eastern South Australia.

*Id.* The South-East Regional Marine Plan was released on May 21, 2004. *See generally* Government of South Australia, <http://www.environment.sa.gov.au/coasts/national.html>.

123. *Australia's Ocean Policy*, *supra* note 122.

124. An ancient commonwealth precedent to this modern Australian regime is found in An Act for the Preservation of Spawn and Fry of Fish, 1 Eliz., c. 17 (1558), which regulated fishing, prohibiting various methods of catching young broods and prohibiting out of season fishing of any kind.

125. *Australia's Ocean Policy*, *supra* note 122, at ch. 2.

126. *Id.*

127. *Id.* ch.1.



tricts.<sup>128</sup> These districts are defined and differentiated by their unique marine ecosystem characteristics, mimicking approaches taken in land-based planning processes designed to protect inland watersheds, forests, wilderness area, and even urban neighborhoods.<sup>129</sup> This is a highly evolved resource planning strategy that integrates international and domestic law, national and state governments and agencies, and affected industries and the public in order to realize the objectives of sustainable development offshore.<sup>130</sup>

### 3. Brazil

The Brazilian Federal Constitution states: "All persons are entitled to an ecologically balanced environment, which is an asset for the people's common use and is essential to healthy life, it being the duty of the Government and of the community to defend and preserve it for present and future generations."<sup>131</sup> The Constitution creates a plan of cooperative federalism; it enunciates a number of *enumerated* powers of the federal government,<sup>132</sup> *express*

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128. *Id.*

129. *Id.*

130. See *Australia's Ocean Policy*, *supra* note 122, *Goals for Australia's Oceans*: In seeking to care for, understand and use our oceans wisely, Australia's Oceans Policy has the following broad goals:

1. To exercise and protect Australia's rights and jurisdiction over offshore areas, including offshore resources.
2. To meet Australia's international obligations under the United Nations Convention on the Law of the Sea and other international treaties.
3. To understand and protect Australia's marine biological diversity, the ocean environment and its resources, and ensure ocean uses are ecologically sustainable.
4. To promote ecologically sustainable economic development and job creation.
5. To establish integrated oceans planning and management arrangements.
6. To accommodate community needs and aspirations.
7. To improve our expertise and capabilities in ocean-related management, science, technology and engineering.
8. To identify and protect our natural and cultural marine heritage.
9. To promote public awareness and understanding.

*Id.*

131. CONST. BRAZIL tit. VIII, ch. VI, art. 225.

132. *Id.* at title III, ch. II, art. 21.

powers that are granted to municipal governments,<sup>133</sup> and *reserved powers* that remain with the states.<sup>134</sup>

Article 30 of the Brazilian Constitution reserves the power of urban planning and land management to municipalities to be carried out in conformance with the nation's broad urban policies.<sup>135</sup> All government levels and agencies must comply with the environmental standards set forth in the Constitution. A 1999 law adopted by the Brazilian Congress contains strong criminal and civil enforcement penalties for offenses committed against natural and cultural resources; these penalties are greatly increased when violations affect endangered species or are committed by repeat offenders.

#### 4. Canada

A number of Canadian laws exhibit interesting characteristics;<sup>136</sup> they vest clear authority in a specific minister or agency, instruct that minister to coordinate with other involved agencies, focus attention on specific geographical areas, include implementation techniques, and demonstrate a commitment to sustainable development.

The Canadian national legislature adopted the Oceans Act in 1996 to protect ocean waters and their marine environment.<sup>137</sup> Ontario adopted the Crown Forest Sustainability Act in 1994 to provide for the sustainable exploitation of forest resources on public lands.<sup>138</sup> In 1998, British Columbia adopted the Muskwa-Kechika Management Area Act to provide for conservation planning and biodiversity protection in the North American continent's largest protected conservation system, comprising 6.3

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133. *Id.* at title III, ch. IV, art. 30. "The municipalities have the power to: I. to legislate on matters of local interest; II. to supplement federal and state legislation where applicable; . . . IV. to create, organize, and suppress districts, with due regard for state legislation; V. to organize and render either directly or by concession or permission, essential public services of local interest, including collective transportation; . . . VIII. to promote, where applicable, adequate land ordainment through planning and control of use, apportionment, and occupation of the city soil; IX. to promote the protection of local historical cultural monuments, with due regard for federal and state legislation and supervision." *Id.*

134. *Id.* title III, ch. III, art. 25(1).

135. *Id.* title III, ch. IV, art. 30.

136. See COMPENDIUM OF LAND USE LAW AND SUSTAINABLE DEVELOPMENT, *supra* note 16.

137. The Oceans Act, 1996 S.C., ch. 30 (Can.).

138. The Crown Forest Sustainability Act, 1994 S.O., ch. 25, § 46 (Ontario).

million hectares.<sup>139</sup> In each of these statutes, administrative responsibilities are clearly defined, enforcement measures are provided, and funding sources are included.

Three provincial statutes from Canada are also included. Ontario's Sustainable Water and Sewage Systems Act of 2002 requires providers of water and wastewater services to prepare reports that estimate their full costs and how those costs are going to be recovered.<sup>140</sup> The reports are to include water source protection measures that protect the quantity and quality of water supplies. Ontario's land use planning act, adopted in 1990, provides for the formation of provincial and municipal planning boards, intermunicipal planning advisory committees, the creation of zoning regulations, site plan control, and the protection of environmental resources and natural features.<sup>141</sup> The province of Manitoba legislature enacted a Sustainable Development Act in 1997 aimed at achieving sustainable development through the comprehensive review of specific projects in an integrated fashion within the province.

## 5. European Union

At the regional scale, the European Union attempts to rationalize national policies of Union member-states regarding common interests, including land use and the environment. Relevant provisions of law are found in the Single European Act<sup>142</sup> and the modification of it contained in the Treaty of Amsterdam.<sup>143</sup> Article 174(1) of the Treaty of Amsterdam establishes as objectives of the EU the preservation of the environment, protecting human health, "rational utilization of natural resources," and promoting regional and worldwide measures for dealing with environmental problems.<sup>144</sup> Article 174(3) states that EU's policies on the environment shall take account of "the economic and social development of the Community as a whole and the balanced development of its regions."<sup>145</sup> Article 175(2) of the Treaty of Amsterdam au-

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139. The Muskwa-Kechika Mangement Act, 1998 S.B.C., ch. 38 (British Columbia).

140. The Sustainable Water and Sewage Systems Act, 2002 S.O., ch. 29 (Ontario).

141. The Sustainable Development Act, 1997 S.M., ch. (Manitoba).

142. Single European Act, 25 I.L.M. 506 (1986).

143. Treaty of Amsterdam amending the Treaty on European Union, The Treaties Establishing the European Communities and Certain Related Acts, 1997 O.J. (C 340) 1.

144. *Id.* art. 174(1).

145. *Id.* art. 174(3).

thorizes the EU's representative body, the Council of the European Union, by unanimous vote, to adopt measures regarding town and country planning, management of water resources, land use, and energy supply.<sup>146</sup> This system leaves significant current sovereignty in the member states to adopt and enforce separate land use planning and regulatory measures, subject to periodic directives and regulations adopted by the Council.

## 6. Mexico

Article 27 of the Mexican Constitution grants Congress the power to dictate measures necessary for the development of human settlements and for the preservation and restoration of the environment.<sup>147</sup> The Ecological Equilibrium and Environmental Protection Act, adopted in 1988, established a foundation for environmental policy, ecological balance, and sustainable development in Mexico.<sup>148</sup> It guarantees "the right of all persons to live in an environment adapted for their development, health and well-being."<sup>149</sup> It also adopts mechanisms for coordination and agreement among governmental authorities and various sectors of society regarding environmental matters.<sup>150</sup>

In 1996, the Ecological Equilibrium and Environmental Protection Act was amended to strengthen the basis for concurrent federal, state, and local jurisdiction and to expand provisions related to land use planning, natural protected areas, and environmental impact assessments.<sup>151</sup> New mechanisms of environmental policy (such as economic instruments, environmental audits, and self-regulating agreements) and the establishment of new rules for public participation in the environmental policy were added to the Act as well.

Since the adoption of the Act, all Mexican states have passed environmental laws that partially or wholly address environmental matters such as ecology, urban development, subdivisions, water treatment, planning, sanitation, public administration,

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146. *Id.* art 175(2).

147. CONST. MEX. art. 27.

148. *See* Ley General del Equilibrio Ecológico y de Protección al Ambiente, L.G.G.E. art. 1 (Mex.).

149. *Id.* art. 1, I.

150. *Id.* art. 1, IX.

151. *See generally* JOSE JUAN GONZALEZ, NUEVO DERECHO AMBIENTAL MEXICANO (INSTRUMENTOS DE POLITICA) 46-76 (1997) (amendment resulting from increased public concern and the subscription to NAFTA and its parallel environmental agreement).

transportation, human settlements, and public works. Several states have issued regulations to accompany these laws and it is also now apparent that Mexican municipalities have begun to adopt land use regulations that protect ecological resources.<sup>152</sup>

## VII. Property Rights and Land Tenure

Property rights, in societies that recognize them, play a fundamental role in the affairs of state, giving their holders rights to participate in the national economy and some insulation from arbitrary state action.<sup>153</sup> How land is owned is critical to sustainable development. People are connected to their land, communities and, ultimately, their sovereign states through land ownership and possession and by the degree of control the state and its agencies have over private land use and exploitation. The U.S. Supreme Court has balanced private property rights with the right of the state to regulate land: "[W]e must remain cognizant that 'government regulation'—by definition—involves the adjustment of rights for the public good, and that '[g]overnment hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law.'"<sup>154</sup>

The connection of people to the land and the compact they have with their governments regarding regulation and appropriation in the public interest are, of course, sensitive to cultural, historical and political differences from country to country.<sup>155</sup> In

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152. See generally Ventana Ambiental Mexico, *Framework of Mexican Environmental Law*, available at <http://www.ventanaambientalmexico.com> (paid subscription website).

153. Cass R. Sunstein, *On Property and Constitutionalism*, 14 CARDOZO L. REV. 907, 915 (1993):

In a state in which private property does not exist, citizens are dependent on the good will of government officials. . . . Whatever they have is a privilege and not a right . . . . Any challenge to the state may be stifled or driven underground by virtue of the fact that serious challenges could result in the withdrawal of the goods that give people basic security.

*Id.*

154. *Lingle v. Chevron U.S.A., Inc.*, 125 S.Ct. 2074, 2081(2005) (internal citations omitted).

155. Progress on these matters is anything but steady and predictable. One of the most progressive state land use laws in recent years was recently challenged forcefully in the State of Wisconsin. The Governor's message accompanying his veto of legislation that would have repealed the state's Smart Growth law stated:

In another, and perhaps its most inexplicable, attack on Wisconsin's environment and its future economic success, the Legislature eliminated the entire comprehensive planning law. Better known in the real estate and planning community as "Smart Growth," this law provided \$2 million an-

general, the world's national legal systems are becoming more centralized, uniform, and predictable as populations increase and pressures on land use intensify. Unless the government is to retain ownership and regulate all use and enjoyment of land by its citizens, such systems arise to allow land ownership to be defined, transferred, leased, mortgaged, and regulated.

National approaches to land ownership and regulation are territorial strategies employed by states to control and define their external boundaries, provide for definition of land rights internally, and serve the cause of intensification of land use due to world population increase. The law of the state defines who can own—who gets landed membership in the national territory—and how property can be used as collateral for loans, sold to third parties, or acquired by the state.

Article 2 of Chapter 1 of the Law of Land Administration of the People's Republic of China creates a land use control regime that is based on the ownership of land by the state. It declares that the Republic "resorts to a socialist public ownership i.e. an ownership by the whole people and ownership by collectives of land."<sup>156</sup> The State Council is empowered to administer land owned by the State. Land use rights are to be transferred by law. Based on this form of ownership, Article 3 states that "[t]he people's governments at all levels should manage to make an overall plan for the use of land to strictly administer, protect and develop land resources and stop any illegal occupation of land."<sup>157</sup> Article 4 notes that the State is to establish strict control on the use of the land and prepare "general plans to set usages of land including those of farm or construction use or unused."<sup>158</sup> The conversion of farmland for commercial or residential development is strictly controlled as well. This law provides that "land should be used strictly in line with the purposes of land use defined in the general

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nually to towns, villages, cities and counties to help them make sensible decisions about housing construction, business development, land preservation and transportation investments. This program is all about small government, local control and economic growth. I have vetoed the Legislature's short-sighted repeal of this important program and restored planning grant funding to Wisconsin's communities.

Governor Jim Doyle 2005-2007 Executive Budget Veto Message, July 25, 2005, at xii, available at [http://www.doa.state.wi.us/docs\\_view2.asp?docid=5001](http://www.doa.state.wi.us/docs_view2.asp?docid=5001) (last visited Sept. 6, 2005).

156. Law of Land Administration of the People's Republic of China, art. 2.

157. *Id.* art. 3

158. *Id.* art. 4.

plan for the utilization of the land whether by units or individuals.”<sup>159</sup>

One of the world's most serious land use problems is the billion or so urban slum dwellers whose existence on the land is extra-legal at best. They do not know what they own or whether their possession of land is secure. As a result, they are a source of political instability and their communities often contribute to urban crime and environmental pollution. In an attempt to deal with this issue, the Brazilian Congress adopted the Statute of the City in 2001.<sup>160</sup> The statute confers title to property to squatters in urban areas to the properties they occupy under certain conditions.<sup>161</sup> The parcel may not exceed 250 square meters; it must be used as the squatter's residence for five years without interruption; and, the squatters may not own any other land.<sup>162</sup> Another serious problem involves the ownership rights of the rural poor who may also be squatters or occupy land thought to be communal in nature without a clear idea of their right to use pastures, forests, and tillable soil.

In general, land ownership regimes are becoming more national in scope, localized property rights systems are eroding, and property rights that were communal in nature are being transformed into individual rights systems. In Mexico, the *ejidos*—or communal lands—are now available for metropolitan expansion and individual ownership under recent amendments to the Mexican Constitution and laws. In the opinion of lawmakers there, this liberalization of ownership frees land from the confusion of diffuse community rights, removes constraints on alienation and collateralization, and allows for the expansion of cities.

Land ownership depends on a variety of national housekeeping functions that include surveying land parcels, providing legal descriptions of what is owned, recording land ownership, allowing the legal subdivision of land titles, and securing both individual ownership and the rights of the public. Public rights include the power of the state to regulate or limit land use in the interest of sustainable development, defining ownership of natural resources and land features under concepts such as the public trust doctrine, and authorizing the state to take land titles for public use while providing for compensation. These rules and procedures

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159. *Id.*

160. *See supra* note 53

161. *Id.*

162. *Id.*

connect owners precisely with their properties, facilitating taxation and revenue generation, which enable states to provide infrastructure such as schools, water, sewers, roads, and utilities. They also create legal boundaries between the insulated sphere of private ownership and the legitimate influence of the state needed to protect the health, safety, and welfare of the people. These features of the national government can be referred to as "property rules."

Land use in Lithuania is controlled, in part, by land title: deeds conveying land titles to new owners include clauses specifying permitted land uses and environmental protection measures.<sup>163</sup> Lithuanian law also prohibits foreign investment in mining when national economic security is implicated, except by special permit, and completely prohibits foreign investment in oil pipelines and communications infrastructure.<sup>164</sup> In Hungary, foreign corporations and individuals may not purchase land without obtaining a permit from the Ministry of Finance, except for agricultural land and land in nationally designated conservation areas where foreign ownership is prohibited.<sup>165</sup>

Mexican law provides an instructive case study of these property rules and their relevance to sustainable development.<sup>166</sup> Mexican property concepts evolved from the Roman law under which property rights were highly secure; ownership was protected from violations by the state—an end in itself. This changed in the Constitution of 1917, following the Mexican revolution. The new constitution adopted the view that property owners owed obligations to the community—that property performed a social function. Article 27 of the Constitution gave ownership of the land and waters to the nation along with the right to hold those rights or convey them to private persons.<sup>167</sup> This constitutional understanding greatly advances the state's ability to regulate and to retain control over natural resources, at least in theory.

Under Mexican law, all legal questions regarding property rights are answered by the law of the place where the property is

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163. Republic of Lithuania Law on Procedures and Conditions for the Restoration of Land Ownership Rights of Citizens (1992), available at <http://www.litlex.lt/litlex/Eng/Frames/Laws/Documents/78.htm>.

164. Republic of Lithuanian Law and Resolution on Spheres of Business Activity Where Foreign Investment Is Prohibited or Limited (1991), available at <http://www.litlex.lt/Litlex/Eng/Frames/Laws/Documents/forbid.htm>.

165. Act No. I of 1987 on Land Use and Land Ownership (Hungary).

166. See generally STEPHEN ZAMORA ET AL., MEXICAN LAW ch. 16 (2004).

167. CONST. MEX. art. 27.



located.<sup>168</sup> Mexican courts are given exclusive jurisdiction over real property.<sup>169</sup> The constitution subjects property to state and municipal taxes.<sup>170</sup> All legal rights created in real property must be registered in the public registry of the state in which the property is located.<sup>171</sup> Although mortgages can be created giving preferences to secured creditors in the affected real property,<sup>172</sup> the market mechanisms needed to support a strong mortgage market are still being developed. Article 27 of the Constitution allows the government to expropriate, or condemn, privately-owned real property, but only for a public purpose, accompanied by the payment of indemnification.<sup>173</sup> Article 27 also secures the ownership rights of the federal government of all minerals and organic resources (oil, gas, coal).<sup>174</sup> These resource rights are inalienable by the government, but the right to exploit them can be licensed by the government, except for gas, oil, and radioactive minerals. Article 27 contains extensive regulations and prohibitions regarding the ownership interests of foreigners of Mexican property.<sup>175</sup> Foreign investors must file a statement subjecting themselves to Mexican law; foreign corporations must show that their reason for purchasing property is consistent with their corporate charter; and, foreigners may not purchase real property near a Mexican border or coastline.<sup>176</sup>

### VIII. The U.S. Land Use System: Cohesion and Fragmentation

Comparative law scholars in other countries can find a series of federal, state, and local statutes in the United States, discussed immediately below, that exhibit a number of positive characteristics. Several of them target a priority problem, one that besets most nations: managing the land use impacts of populations that are crowding into coastal communities. They illustrate the need

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168. *Id.* art. 121, § I.

169. C.F.P.C. art. 568.

170. CONST. MEX. art. 121, § II(a).

171. *Id.* art. 27.

172. C.C.D.F. art. 2893.

173. CONST. MEX. art. 27.

174. *Id.*

175. *Id.*

176. "In no event may foreigners acquire direct ownership of lands and waters located within one hundred kilometers of the borders or fifty kilometers of the beaches." *Id.* art. 27, § 1. Foreign investment, particularly in resort communities, is permitted under the Foreign Investment Law of 1993, which allows foreigners to purchase beneficial interests in real estate trusts which can last for fifty years and be renewed.

to involve all three levels of government—national, state/provincial, and local—each according to its own competencies. These laws emphasize the importance of land use planning within a national framework of laws. They encourage citizen participation, leverage and direct the resources of the private sector, and show how municipal governments—those in direct proximity to discrete problems on the land—can be enabled and supported to address the local dimensions of the planet's land use problems.

Read in conjunction with the United Nations Convention on the Law of the Sea, the European Landscape Convention, Canada's Ocean's Act, and Australia's Ocean Policy, these statutory provisions demonstrate that the law can weave a connected web of policies, standards, and initiatives competent to address the interconnected stresses on the global population and environment. In the next several sections, note how one country, the United States, has equipped itself to comply with the dictates of an important international convention, the United Nations Convention on the Law of the Sea, despite its failure to accede to the convention. That agreement requires that its signatory nations preserve the marine environment and assumes that each nation has the legal authority to control, among other things, land-based sources of pollution of the marine environment.<sup>177</sup> This Part ends with a reminder that the U.S. land use system is still highly fragmented and in need of much further improvement to achieve the kind of coherence necessary to join all levels of government and all sectors in a coordinated strategy of sustainable development.

## **A. The National Framework**

In the United States, the Coastal Zone Management Act of 1972 (CZMA) aims to control pollution of the marine environment and solve a host of related problems, including the preservation of wetlands, habitats, shorelines, and floodplains within the nation's coastal areas, where over fifty percent of the population lives. It is an incentive-based law. The CZMA rewards states that create competent coastal land use plans with funding, eligibility for other rewards, and control over federal activities within their coastal areas. States that do not create coastal land use plans are denied funding and have little control over federal agencies and their projects and other influences in the states' coastal areas. States

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177. United Nations Convention on the Law of the Sea pt. XII, art. 194 (Dec. 10, 1982).

submit their coastal plans to the national government, which, in turn, must review and certify those plans that comply with established federal coastal policies.

State plans must show how local governments, which have significant land use and development control in the U.S., will carry out the state coastal plan. In most states, this is accomplished by incentive-based state laws. Localities that adopt land use plans that comply with state and federal coastal policies are allowed to control land use and development in their coastal waterfronts. Under most state coastal programs, localities are offered financial incentives as well: planning grants or favored eligibility for development and conservation funding programs. Woven together by incentives and shared policies, this system allows for some congruency among all three relevant levels of government.

## B. State Plans: New York

The New York State land use enabling acts illustrate how state governments in the U.S. authorize their local municipalities to control land use. New York's laws are similar to the original model land use enabling acts promulgated by the U.S. Department of Commerce in the 1920s and to land use enabling laws in the fifty states.<sup>178</sup> These state statutes authorize towns, cities, and villages to adopt land use plans and then divide their jurisdictions into zoning districts, to specify land uses permitted in those districts, and to establish administrative agencies to review and approve private sector proposals for land use and development.

In authorizing localities to adopt comprehensive land use plans, the statutes call land use planning and regulation one of "the most important powers and duties granted by the legislature to [local] government[s]."<sup>179</sup> The statutes require citizen participation in the adoption of both land use plans and regulations. They authorize localities to create stakeholder groups and gives them enduring and profound power to give advice regarding—and

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178. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 768 (3d ed. 2000) ("Land use regulation in the United States traditionally has been the province of local governments using *zoning ordinances* and *building codes* as their principal regulatory tools."); see also ZYGMUNT J.B. PLATER ET AL., ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY 1246 (3d ed. 2004) ("In day-to-day practice, the overwhelming majority of land-use management occurs at the local level, predominantly through local government regulation . . .").

179. N.Y. TOWN LAW § 272-A; N.Y. VILLAGE LAW § 7-722; N.Y. GEN CITY LAW 28-A (2005).

to shape—local plans and regulations. The statutes specify that comprehensive land use plans should, among other things, consider coastal and natural resources as sensitive environmental areas, job creation and economic development, and affordable housing: evidence of the values of sustainable development in the state's system of land use laws.

The New York State Coastal Erosion Hazard Areas Act complements the coastal zone planning program by dealing more discretely with coastal erosion, a significant threat to the marine environment of coastal waters.<sup>180</sup> Again, this act emphasizes planning, governmental collaboration, and respects the municipal role. New York's coastal hazard act calls for an integrated system involving the identification and mapping of coastal erosion hazard areas, the adoption of local laws that control development and land uses within them, the certification of such ordinances by the relevant state agency, and state agency permitting of certain land-based development activities within identified coastal areas. Permits for land development projects are not issued unless they comply with established state standards for development in coastal hazard areas.

State enabling law in New York authorizes local governments to adopt laws that protect their aesthetic and physical resources. Under this authority, and that of the Coastal Erosion Hazard Areas Act, the Town of Babylon enacted its Coastal Erosion Hazard Zone Ordinance. Babylon is critically located on Long Island, New York; to its north is Long Island Sound and to its south, the Atlantic Ocean—two valuable marine environments.

The ordinance operates as an overlay district, adding to local zoning and land use standards those needed to protect against coastal erosion within the identified and mapped coastal erosion zone within the town itself.<sup>181</sup> In this law, one can observe a local government, with local knowledge of its own particular environment, adjusting a state law to its circumstances. The Babylon ordinance, for example, contains separate definitions and standards regarding the protection of bird nesting and breeding areas, and other special wildlife habitat considerations.<sup>182</sup> It goes beyond the

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180. N.Y. ENVTL. CONSERV. LAW art. 34, §§ 34-0101 *et seq.* The text of the statute is available at: <http://www.assembly.state.ny.us/>. N.Y.S. Department of Environmental Conservation regulations for Coastal Erosion Management—6 NYCRR Part 505—are available at: <http://www.dec.state.ny.us/website/regs/part505.html>.

181. TOWN OF BABYLON, N.Y., CODE, ch. 99, §§ 99-1 – 99-14.

182. See, e.g., *id.* § 99-12(A):

standards of the state law by prohibiting all development in near-shore and beach areas.

### C. Approaches in Other States

Comparative law scholars can find other U.S. laws to illustrate the diversity of approaches taken by states in the U.S. as they grapple with the difficult task of absorbing over two million new residents each year.<sup>183</sup> Under the Tenth Amendment of the U.S. Constitution, the states reserved various powers not delegated to the federal government.<sup>184</sup> The political understanding of this arrangement is that the states control land use and define property rights,<sup>185</sup> subject to a limited number of federal requirements, which include clauses in the Fifth Amendment securing property rights from arbitrary infringements by state regulations and requiring that government acquisitions of private property for public purposes be accompanied by monetary compensation.<sup>186</sup>

#### 1. New Hampshire

Under their reserved powers, states create a variety of approaches to delegating authority to local governments to control land use. New Hampshire, for example, does not require municipalities to control land use through regulation but, if they do, municipalities must first adopt a land use master plan. State law further encourages localities to include various elements in their plans including, for example, natural resource and natural hazard protection,

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High, vegetated dunes provide a greater degree of protection than low, unvegetated ones. Dunes are of the greatest protective value during conditions of storm-induced high water. Because dunes often protect some of the most biologically productive areas as well as developed coastal areas, their protective value is especially great. The key to maintaining a stable dune system is the establishment and maintenance of beach grass or other vegetation on the dunes and assurance of a supply of nourishment sand to the dunes.

*Id.*

183. See GROWING SMART LEGISLATIVE GUIDEBOOK: MODEL STATUTES FOR PLANNING AND THE MANAGEMENT OF CHANGE chs. 8-10 (Stuart Meck ed., 2002).

184. The Tenth Amendment provides: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people." U.S. CONST. amend. X.

185. See 42 U.S.C.A. § 746 (2000): "Nothing in this chapter constitutes an infringement on the existing authority of countries and cities to plan or control land use, and nothing in this chapter provides or transfers authority over such land use."

186. "No person shall be . . . deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation." U.S. CONST. amend. V.

as well as transportation and economic development.<sup>187</sup> Under these provisions, notably, municipalities may choose to develop coastal protection ordinances to carry out master plan provisions regarding the protection of natural resources and natural hazard areas. New Hampshire municipalities are empowered to use a variety of innovative land use mechanisms to phase growth in an orderly way and to conserve open space and natural resources by clustering permitted development on discrete portions of land parcels.

A specific law in New Hampshire, from the City of Dover, illustrates this point.<sup>188</sup> The city legislature adopted an "Overriding Districts" ordinance under its land use enabling authority from the state to conform to the state Comprehensive Shorelands Protection Act.<sup>189</sup> This shorelands act was adopted by New Hampshire, a coastal state, in part to conform to the policies of the federal Coastal Zone Management Act, discussed above.<sup>190</sup> This ordinance protects wetlands, watercourses, and steep slopes in designated shorelands areas within the town. With the maintenance of high water quality as its objective, this local ordinance aims directly at the objectives of the U.N. Convention on the Law of the Sea; the town's land-based activities, under this law, should not contribute to the pollution of adjacent coastal waters.

## 2. Wisconsin

The State of Wisconsin takes a broad approach to empowering local governments to deal with sustainable development. Under its Smart Growth Act, local governments are required to adopt comprehensive land use plans that contain elements addressing housing, economic development, natural and cultural resource protection, and intergovernmental cooperation.<sup>191</sup> It encourages them to promote mixed-use, higher density development in traditional neighborhood developments (TND), in part to absorb market pressures for development in a more cost-effective manner. River Falls, Wisconsin, adopted a TND ordinance designed to concentrate development in this way, noting in the law that this will

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187. N.H. REV. STAT. ANN. §§ 674:2, 674:16, 674:18. Chapter 674 of the New Hampshire statutes is available at <http://www.gencourt.state.nh.us/rsa/html/indexes/674.html>.

188. CITY OF DOVER, N.H., ZONING CODE, ARTICLE VII, OVERRIDING DISTRICTS ORDINANCE..

189. N.H. REV. STAT. ANN. § 483-B:8 (West 2005).

190. Coastal Zone Management Act, 16 U.S.C.A. §§ 1451-1464 (West 1972).

191. WIS. STAT. ANN. § 66.1001(4)(a) (West 2005).

reduce impervious surfaces—one of the key contributors to surface water pollution.

### 3. Washington

Washington State's Growth Management Act<sup>192</sup> aims to concentrate development more effectively by requiring county governments to adopt comprehensive land use plans that designate urban and rural areas and that prohibit urban densities from occurring in rural areas. This state law requires counties to use the best available science to guide them in designating critical environmental areas in rural areas. Thurston County adopted an Urban Growth Area Zoning Ordinance for the City of Olympia, the state's capital.<sup>193</sup> Among the types of legal mechanisms it employs to create efficient neighborhoods is a Planned Unit Development (PUD) land use control technique. PUD ordinances in the U.S. allow the owners of several parcels of land to apply for permission to cluster permitted development on a small portion of their properties in the interest of preserving open space, wildlife habitats, and other environmental features.

### D. Fragmentation: Mississippi River Basin and the Coasts

The complexity and fragmentation of the U.S. land use legal system can be seen in recent efforts to react to catastrophic flooding in the Mississippi River Basin.<sup>194</sup>

The Mississippi River watershed extends over more than forty percent of the contiguous United States, reaching from Canada to the Gulf of Mexico and from Colorado to New York. The third-largest floodplain river in the world, the Mississippi is bordered by ten states, and its watershed extends into more than twenty other states and provinces.<sup>195</sup> In 1999, the U.S. Geological Survey's Biological Resources Division reported that "declines in key native species across many trophic levels signal a deterioration in the health of this riverine ecosystem" and noted mounting

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192. WASH. REV. CODE § 36.70A (West 2005)

193. THURSTON COUNTY, WASH., THURSTON COUNTY CODE § 23, available at [http://municipalcodes.lexisnexis.com/codes/thurston/\\_DATA/TITLE23/index.html](http://municipalcodes.lexisnexis.com/codes/thurston/_DATA/TITLE23/index.html).

194. The material in this section is adapted from a research paper submitted to the author by Susan Moritz in July, 2004, entitled *Ecosystem Approaches to Disaster Mitigation in the Mississippi River Basin*.

195. See United States Geological Survey (USGS), *Status and Trends of the Nation's Biological Resources: Mississippi River* (1999), available at <http://biology.usgs.gov/sTM/SNT/noframe/ms137.htm>.

evidence that “the cumulative effects of human activities have already exceeded the ecosystem’s assimilative capacity.”<sup>196</sup>

Floods have caused the greatest loss of life and property damage of any type of natural disaster in the U.S. during the last century.<sup>197</sup> Over the past 200 years, flooding in the Mississippi River Basin has been intensified by settlement in the floodplain, by agriculture, by timber harvesting and oil drilling, by the destruction of wetlands and animal habitat, by structural changes meant to improve transportation on the river—channelization, dams and locks, dredging—and by other structural changes, including levees and floodwalls, meant to protect against flooding. In the Delta, this transformation of the river has resulted in subsidence, inundation and land loss, and hypoxia—an aquatic “dead zone” in the Gulf of Mexico. In 2005, the U.S. Environmental Protection Agency reported that only twenty percent of Gulf Coast estuaries “are in good ecological condition. . . . [T]hirty-nine percent of estuarine area along the Gulf of Mexico was assessed as threatened (in fair condition).”<sup>198</sup>

The natural complexities of the Mississippi Basin ecosystem are overlaid by the fixed boundary lines of states, by somewhat more flexible municipal boundaries, and by a tangle of laws and policies that regulate the land. At the federal level alone, the National Academy of Sciences’ Committee on Watershed Management has identified twenty-two federal agencies that deal with the hydrologic cycle.<sup>199</sup>

Following the great Midwest floods of 1993, the Upper Mississippi River Conservation Committee, a five-state consortium of natural resource managers, reported that in the Upper Mississippi Basin alone—in addition to relevant federal statutes—there now exists a planning, regulatory, and management framework that includes at least 20 different categories of agencies (from federal to local) with jurisdiction over one or more of some 33 different functional areas of activity on the river. This includes at least

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196. *Id.*

197. TOM DANIELS & KATHERINE DANIELS, *THE ENVIRONMENTAL PLANNING HANDBOOK: FOR SUSTAINABLE COMMUNITIES AND REGIONS* 258 (2003).

198. U.S. EPA, *National Coastal Condition Report II—2005*, at 136 (2005), *available at* <http://www.epa.gov/owow/oceans/nccr/2005>.

199. NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY OF SCIENCES, *NEW STRATEGIES FOR AMERICA’S WATERSHEDS* 279 (1999).



six federal agencies with significant roles, 23 state agencies in five states, and 233 local governments.<sup>200</sup>

In 2005, the final report of the U.S. Commission on Ocean Policy outlined the “complex mosaic of legal authorities” affecting coastal management in the United States:

Management of ocean and coastal resources and activities must address a multitude of different issues, and involves aspects of a variety of laws—at local, state, federal, and international levels—including those related to property ownership, land and natural resource use, environmental and species protection, and shipping and other marine operations—all applied in the context of the multi-dimensional nature of the marine environment. Several of those aspects of law may come into play simultaneously when addressing conflicts over public and private rights, boundaries, jurisdictions, and management priorities concerning ocean and coastal resources. In addition, some laws result in geographic and regulatory fragmentation and species-by-species or resource-by-resource regulation. Further complexity results because international law recognizes several distinct geographic jurisdictional zones in the ocean and authorizes coastal nations to assert certain rights and jurisdiction within these zones. Additionally, U.S. law divides authority and responsibility between federal and state governments.<sup>201</sup>

The U.S. Commission on Ocean Policy recommended that “U.S. ocean and coastal resources should be managed to reflect the relationships among all ecosystem components, including humans and nonhuman species and the environments in which they live. Applying this principle will require defining relevant geographic management areas based on ecosystem, rather than political, boundaries.”<sup>202</sup> In addition to the complicated legal framework affecting ecosystem management, the Commission’s report emphasized the importance of public awareness of ecosystem issues—particularly of the causes of non-point source pollution.<sup>203</sup>

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200. Upper Mississippi River Conservation Committee, *Facing the Threat: An Ecosystem Management Strategy for the Upper Mississippi River* (Dec. 1993), <http://www.mississippi-river.com/umrcc/Call-for-Action.html>.

201. U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT app. 6 (2005), available at [http://www.oceancommission.gov/documents/full\\_color\\_rpt/welcome.html](http://www.oceancommission.gov/documents/full_color_rpt/welcome.html).

202. *Id.* (summary of recommendations).

203. A 1999 study indicated that just 32 percent of the nation’s adults grasp simple environmental concepts, and even fewer understand more complex issues, such as ecosystem decline, loss of biodiversity, or watershed deg-

Over the last decade, a number of federal and state agencies have in fact begun to adopt ecosystem approaches to natural resource protection. Integrating science into comprehensive planning, some local governments have used their traditional land use powers to preserve natural resources, biodiversity, and ecosystems and are enacting laws to restore trees, wetlands, habitats, and landforms destroyed in the last 200 years. The 2002 report of the Pew Oceans Commission observes that:

America's oceans and estuaries are international resources, yet their fates lie in the hands of thousands of individual towns, cities, and counties throughout the coastal zone. The plight of these natural systems epitomizes the plight of major ecosystems worldwide, where the structures of authority are dwarfed by the enormous implications of the decisions made.<sup>204</sup>

## IX. Conclusion

The principal conclusion one draws from reviewing land use laws adopted by countries on each continent is that a connected framework of legal strategies is slowly and serendipitously being created, either in response to the Rio accords or simply because of the sheer pressure of population growth and the stress it places on the world's resources.<sup>205</sup> This single contribution of the law, if there were no more, is critically important. At the international level, the laws of nation-states, and their component parts—provinces, municipalities, and private and civic sectors—constitute a com-

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radation. It is not generally understood that nonpoint source pollution threatens the health of our coastal waters or that mercury in fish comes from human activities via the atmosphere. Few people understand the tangible value of the ocean to the nation or that their own actions can have an impact on that resource. From excess applications of fertilizers, pesticides, and herbicides on lawns, to the trash washed off city streets into rivers and coastal waters, ordinary activities can and do contribute significantly to the degradation of the marine environment. Instilling a stewardship ethic in the American public is an important element of a national ocean policy. Without an acknowledgement of the impacts associated with ordinary behavior and a willingness to take the necessary action—which may incur additional costs—achieving a collective commitment to more responsible lifestyles and new policies will be difficult.

*Id.* at 69.

204. DANA BEACH, COASTAL SPRAWL: THE EFFECTS OF URBAN DESIGN ON AQUATIC ECOSYSTEMS IN THE UNITED STATES 29 (Pew Oceans Commission, 2002).

205. See *supra* notes 7 and 9 and accompanying text.

plex system that is forming in response to the ever-intensifying use of the land.

Changes over the last decade or two in land use laws on all continents demonstrate an unpredictable but gradual movement toward cohesion within the world's legal system for promoting sustainable development. Reacting to local crises, local citizens urge local officials to promote more positive patterns of development as local governments are being given more meaningful involvement in shaping state and provincial land use systems. Concurrent jurisdiction between state and federal governments is more and more common. There is evidence that international agreements are affecting national legal systems and that national land use systems are paying attention to the urgings of international declarations and conventions.

Viewed optimistically, this evidence of institutional change—an emerging network of agencies and actors learning to communicate—is good news for sustainable development. While there is reason to be impatient with the pace of progressive reform in this field of policy and law, it is impressive to note that much of this progress, made evident through comparative legal study, has occurred in less than a decade and a half since the clarion call of the Rio accords.